

SECTION III—REMARKS

This amendment is submitted in response to the final Office Action mailed March 15, 2006. No claims are amended, and claims 29-38 remain pending in the application. Applicants respectfully request reconsideration of the application and allowance of all pending claims in view of the above amendments and the following remarks.

Rejections Under 35 U.S.C. § 112

The Examiner rejected claims 29-38 under 35 U.S.C. § 112 as indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicants respectfully traverse the rejections, as explained below.

The Examiner first alleges that recitation of the *ablative layer* is confusing because it combines a method of making the structure with the micro resonator structure itself, and if the layer is proper to the invention, then citation of the device as a micro resonator is improper since the invention then becomes a method of making such, but not a micro resonator itself. Applicants respectfully disagree on two grounds. First, the recitation of an ablative structure in independent claims 29 and 34 is not a method step because it does not use the accepted wording for method claims. Method claims use the gerund form of the verb, which would be “ablating,” but that form is not used here. Instead, “ablative” is used as an adjective that modifies a structural element. Second, an “ablative structure” indicates a

structure that is capable of being ablated (*e.g.*, removed by ablation), but nothing in the claim requires actual ablation of the structure and the structure is therefore not “a layer which is essentially to be removed,” as characterized by the Examiner. Illustrative embodiments are shown in Figures 12 and 13. Figure 12 shows an oscillator 100 that includes a pattern of ablative structures 36. The final frequency of oscillator 100 is based upon the mass and position of ablative structures 36. If the frequency of the oscillator as shown in Figure 12 is the desired frequency, then no ablative structures need be removed; but if the frequency needs adjustment, one or more ablative structures can be removed as shown in Figure 13. Accordingly, it can be seen that an “ablative structure” is not “essentially to be removed” but may be selectively removed to allow tuning of a micro resonator.

The Examiner’s second allegation is that recitation of a layer which is used in the micro resonator does not appear proper to the invention since it involves a layer which is essentially to be removed. Applicants respectfully disagree. The recitation in an apparatus claim of elements that are removable—that is, capable of being removed even if not actually removed—does not make a claim unpatentable or unclear. In fact, MPEP § 2144.04(V)(D) suggests that it is entirely permissible to have an apparatus claim that includes a removable element. Further, a search of the PTO patent database reveals a very large number of patents with apparatus claims that include the term “removable.”

For the reasons above, Applicants respectfully submit that the claims are definite and respectfully request withdrawal of the rejection and allowance of the claims.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 29 and 31 as anticipated under 35 U.S.C. § 102(b) by U.S. Patent No. 5,913,244 to Heinouchi ("*Heinouchi*"). Applicants respectfully traverse the Examiner's rejections. A claim is anticipated only if each and every element, as set forth in the claim, is found in a single prior-art reference. MPEP § 2131; *Verdegaal Bros. v. Union Oil of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). As explained below, *Heinouchi* cannot anticipate these claims because it does not disclose every element and limitation recited therein.

Claim 29 recites a micro resonator combination including an oscillator member disposed upon an oscillator pedestal and "an ablative structure positioned on the oscillator member, the ablative structure being separated from the oscillator member by a protective pad." *Heinouchi* does not disclose a combination including the recited features. Instead, *Heinouchi* discloses a vibrator 10 that includes an oscillator 12 connected to a holding member 32. The oscillator 12 is sandwiched between two pairs of piezoelectric devices: devices 24a and 24c on top, and devices 24b and 24d on the bottom (col. 4, lines 4-11). Each piezoelectric device consists of a piezoelectric layer 26 sandwiched between a pair of electrodes 28 and 30 (col. 4, lines 12-21).

Heinouchi does not disclose, teach or suggest that any part of the piezoelectric devices 24 is ablative. In particular, *Heinouchi* does not disclose, teach or suggest that the piezoelectric layer 26—which the Examiner says corresponds to the recited “structure”—is ablative. *Heinouchi* therefore cannot disclose, teach or suggest a combination including the recited features. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claim 31, if an independent claim is allowable then any claim depending therefrom is also allowable. See generally MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 29 is in condition for allowance. Applicants respectfully submit that claim 31 is therefore allowable by virtue of its dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 30, 32, 33 under 35 U.S.C § 103(a) as unpatentable in view of *Heinouchi* and claims 34-38 as unpatentable over *Heinouchi* in view of U.S. Patent No. 3,683,213 to Staudte (“*Staudte*”).

As to claims 30, 32 and 33, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 29

is in condition for allowance. Applicants therefore respectfully submit that claims 30, 32 and 33 are allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

As to claim 34, Applicants respectfully traverse the Examiner's rejection. To establish a *prima facie* case of obviousness, three criteria must be met: (1) the prior art references must teach or suggest all the claim limitations; (2) some suggestion or motivation to combine the references must be found in the prior art; and (3) there must be a reasonable expectation of success. MPEP § 2143. As explained below, Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness.

Claim 34 recites a micro resonator combination including an oscillator member suspended above a substrate by an oscillator pedestal and "an ablative structure positioned on the oscillator member, the ablative structure being separated from the oscillator member by a protective pad." As discussed above for claim 29, *Heinouchi* does not disclose, teach or suggest a combination including these limitations. Similarly, *Staudte* does not disclose, teach or suggest these limitations. Instead, *Staudte* discloses a microresonator 16 having a tuning-fork configuration including a metal film weight 20 formed directly on each tine 19 of the tuning fork. *Staudte* does not disclose, teach or suggest using any kind of protective pad between

the metal weight 20 and the microresonator tines 19, nor does it disclose, teach or suggest that the metal weights 20 are ablative. Since neither *Heinouchi* nor *Staudte* discloses the recited features, the combination of these two references cannot disclose, teach or suggest a microresonator combination including “an ablative structure positioned on the oscillator member, the ablative structure being separated from the oscillator member by a protective pad.” Applicants therefore respectfully request withdrawal of the rejection and allowance of the claim.

Regarding claims 35-38, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claim 34 is in condition for allowance. Applicants respectfully submit that claims 35-38 are therefore allowable by virtue of their dependence on an allowable independent claim, as well as by virtue of the features recited therein. Applicants therefore respectfully request withdrawal of the rejections and allowance of these claims.

Conclusion

Given the above remarks, all claims pending in the application are in condition for allowance. If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to allowance of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 292-8600.

Charge Deposit Account

Please charge our Deposit Account No. 02-2666 for any additional fee(s) that may be due in this matter, and please credit the same deposit account for any overpayment.

Respectfully submitted,

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Date: 5-15-06



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Enclosures: Amendment transmittal, in duplicate